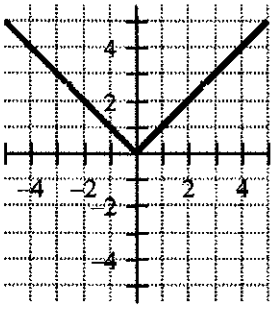
Pre Calculus Honors **Name:**
Date:

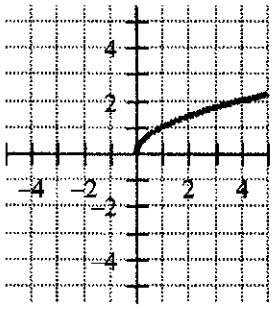
1.5/1.6 Homework

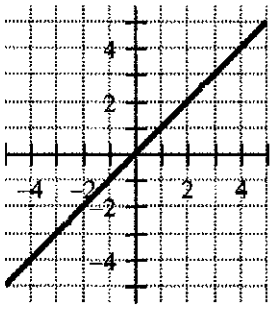
1. If a function is even, its graph is symmetric with respect to the _____.
This also means that $f(-x) =$ _____

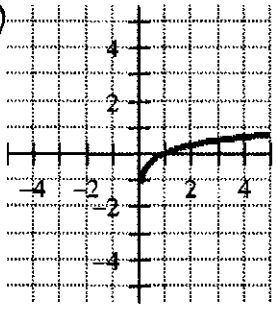
2. If a function is odd, its graph is symmetric with respect to the _____.
This also means that $f(-x) =$ _____

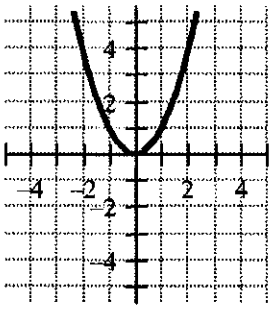
Determine whether each function graphed is even, odd, or neither

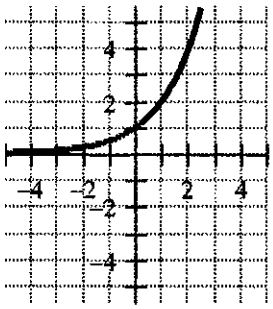
____3. 

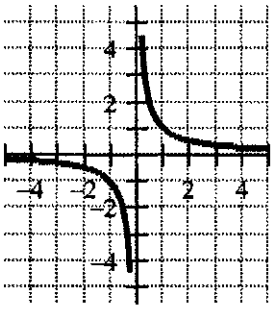
____4. 

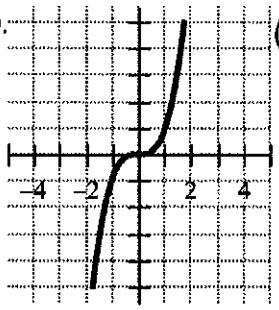
____5. 

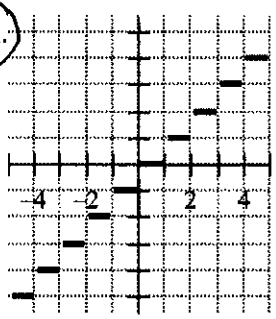
____6. 

____7. 

____8. 

____9. 

____10. 

____11. 

Choose you need:
Minimum → all 11 circled problems
Maximum → whole packet
or somewhere in-between!

Determine algebraically whether each of the following functions is even, odd or neither.

12. $f(x)=4x+5$

13. $f(x)=x^3-x$

14. $f(x)=x^2-6$

15. $f(x)=x^3-x-2$

16. $f(x)=\dfrac{x^4-x}{x^5-x}$

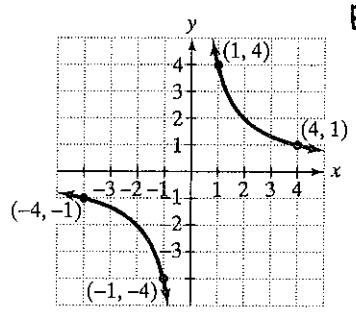
17. $f(x)=\dfrac{x^3-x}{x^5}$

18. $f(x)=(x-4)^2$

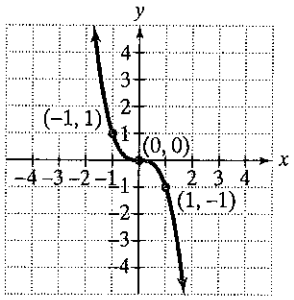
19. $f(x)=-x^4-x^2+4$

Even/Odd/Neither?

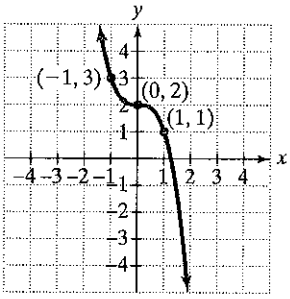
30.



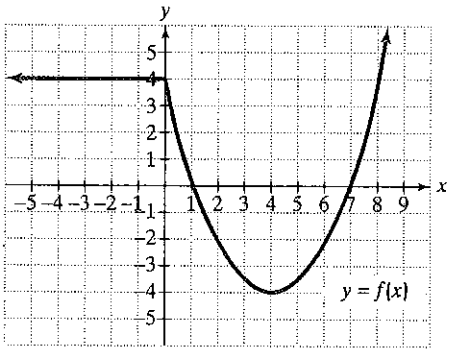
31.



32.

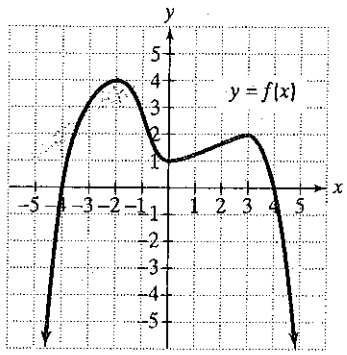


33. Use the graph of f to determine each of the following. Where applicable, use interval notation.



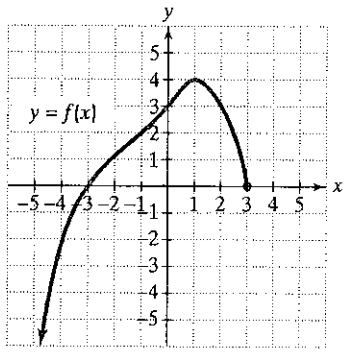
a. the domain of f
b. the range of f
c. the x-intercepts
d. the y-intercept
e. intervals on which f is increasing
f. intervals on which f is decreasing
g. intervals on which f is constant
h. the number at which f has a relative minimum
i. the relative minimum of f
j. $f(-3)$
k. the values of x for which $f(x) = -2$
l. Is f even, odd, or neither?

34. Use the graph of f to determine each of the following. Where applicable, use interval notation.



a. the domain of f
b. the range of f
c. the x-intercepts
d. the y-intercept
e. intervals on which f is increasing
f. intervals on which f is decreasing
g. values of x for which $f(x) \leq 0$
h. the numbers at which f has a relative maximum
i. the relative maxima of f
j. $f(-2)$
k. the values of x for which $f(x) = 0$
l. Is f even, odd, or neither?

35. Use the graph of f to determine each of the following. Where applicable, use interval notation.



a. the domain of f
b. the range of f
c. the zeros of f
d. $f(0)$
e. intervals on which f is increasing
f. intervals on which f is decreasing
g. values of x for which $f(x) \leq 0$
h. any relative maxima and the numbers at which they occur
i. the value of x for which $f(x) = 4$
j. Is $f(-1)$ positive or negative?